

What is claimed is:

1. A method for use in detection of a person disguised with one or more artificial materials, the method comprising:
  - 5 detecting reflection from at least one portion of a head of a human body in at least a portion of an upper band of the near infrared spectrum; and determining the presence of an artificial material associated with the head of the human body based on the detected reflection.
- 10 2. The method of claim 1, wherein the at least a portion of the upper band of the near infrared spectrum is at least a portion within the range of 1.4 $\mu$ m and above in upper band of the near infrared spectrum.
3. The method of claim 2, wherein the at least a portion of the upper band of  
15 the near infrared spectrum is at least a portion within the range of 1.4 $\mu$ m to 2.4 $\mu$ m in the upper band of the near infrared spectrum.
4. The method of claim 3, wherein the at least a portion of the upper band of the near infrared spectrum is at least a portion within the range of 1.4 $\mu$ m to  
20 1.7 $\mu$ m in the upper band of the near infrared spectrum.
5. The method of claim 1, wherein detecting reflection comprises detecting reflection from at least a skin portion of the head of the human body.
- 25 6. The method of claim 1, wherein detecting reflection comprises detecting reflection from at least a hair portion of the head of the human body.
7. The method of claim 1, wherein determining the presence of an artificial material associated with the head of the human body comprises displaying to a  
30 user a representation of the detected reflection of the at least one portion of the head of the human body.

8. The method of claim 1, wherein determining the presence of an artificial material associated with the head of the human body comprises:

generating data representative of the detected reflection; and

5 comparing the data to at least one threshold reference reflection level.

9. The method of claim 8, wherein generating data representative of the detected reflection comprises focusing the reflection on a pixel array that is sensitive to the at least a portion of the upper band of the near infrared spectrum,  
10 and generating a signal representative of the spectral power for each of a plurality of pixels of the pixel array to be used for the comparison to the at least one threshold reference reflection level.

10. The method of claim 8, wherein the at least one threshold reference reflection level is based on a level of reflection of the one or more artificial materials.  
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11. The method of claim 10, wherein the at least one threshold reference reflection level is a plurality of reference reflection levels corresponding to a plurality of artificial materials, and further wherein the method comprises  
20 identifying one or more of the artificial materials associated with the head of the human body.

12. The method of claim 8, wherein the at least one threshold reference reflection level is based on a level of reflection of natural skin of the human body.  
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13. The method of claim 8, wherein the at least one threshold reference reflection level is based on a level of reflection of natural hair of the human body.  
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14. The method of claim 1, wherein the method further comprises illuminating the at least a portion of the head of the human body using an illumination source matched to the at least a portion of the upper band of the near infrared spectrum.

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15. The method of claim 14, wherein the method further comprises:  
detecting an illumination level proximate the head of the human body;  
and

controlling the illumination source based on the detected illumination  
10 level to maintain a desired illumination level on the head of the human body.

16. A disguised person detection system comprising:

a detector apparatus operable to detect reflection from at least a portion  
of a head of a human body in at least a portion of an upper band of the near  
15 infrared spectrum; and  
an indication apparatus operable to provide a user with information as to  
the presence of an artificial material associated with the head of the human body  
based on the detected reflection.

20 17. The system of claim 16, wherein the at least a portion of the upper band  
of the near infrared spectrum is at least a portion within the range of 1.4 $\mu$ m and  
above in the upper band of the near infrared spectrum.

18. The system of claim 17, wherein the at least a portion of the upper band  
25 of the near infrared spectrum is at least a portion within the range of 1.4 $\mu$ m to  
2.4 $\mu$ m in the upper band of the near infrared spectrum.

19. The system of claim 18, wherein the at least a portion of the upper band  
of the near infrared spectrum is at least a portion within the range of 1.4 $\mu$ m to  
30 1.7 $\mu$ m in the upper band of the near infrared spectrum.

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20. The system of claim 16, wherein the indication apparatus comprises a display operable to provide a representation of the detected reflection of the at least the portion of the head of the human body.

5 21. The system of claim 16, wherein the system further comprises a display operable to provide a representation of the detected reflection of the at least the portion of the head of the human body for use in presenting the information as to the presence of an artificial material associated with he head of the human body.

10 22. The system of claim 16, wherein the detector apparatus comprises one or more pixels sensitive to the at least a portion of the upper band of the near infrared spectrum and operable to provide information representative of the detected reflection from the at least the portion of the head of the human body, and further wherein the indication apparatus comprises circuitry operable to  
15 compare the information representative of the detected reflection to at least one threshold reference reflection level.

20 23. The system of claim 22, wherein the at least one threshold reference reflection level is based on a level of reflection of the one or more artificial materials.

24. The system of claim 23, wherein the at least one threshold reference reflection level is a plurality of reference reflection levels corresponding to a plurality of artificial materials, and further wherein the circuitry of the indication  
25 apparatus is operable for use in identifying one or more of the artificial materials associated with the head of the human body.

25. The system of claim 22, wherein the at least one threshold reference reflection level is based on a level of reflection of natural skin of the human  
30 body.

26. The system of claim 22, wherein the at least one threshold reference reflection level is based on a level of reflection of natural hair of the human body.

5 27. The system of claim 16, wherein the system further comprises an illumination source matched to the at least a portion of the upper band of the near infrared spectrum positioned to illuminate the at least the portion of the head of the human body.

10 28. The system of claim 27, wherein the system further comprises a detector operable to detect an illumination level proximate the head of the human body, and further wherein the indication apparatus comprises circuitry operable to control the illumination source based on the detected illumination level to maintain a desired illumination level of the head of the human body.

15 29. A detection method comprising:  
detecting reflection from a scene in at least a portion of one band of the near infrared spectrum;  
determining the presence of a head of a human body in the scene based  
20 on the detected reflection in the at least a portion of the one band of the near infrared spectrum;  
detecting reflection from at least one portion of the head of the human body in at least a portion of an upper band of the near infrared spectrum to determine the presence of an artificial material associated with the head of the  
25 human body based on the detected reflection from at least one portion of the head of the human body.

30 30. The method of claim 29, wherein detecting reflection from a scene in at least a portion of one band of the near infrared spectrum comprises detecting reflection from the scene in at least a portion of a lower band of the near infrared

spectrum and from the scene in at least a portion of an upper band of the near infrared spectrum.

31. The method of claim 30, wherein the at least a portion of the lower band  
5 of the near infrared spectrum is at least a portion within the range of 0.8 $\mu$ m to 1.4 $\mu$ m in the lower band of the near infrared spectrum, and further wherein the at least a portion of the upper band of the near infrared spectrum is at least a portion within the range of 1.4 $\mu$ m to 2.2 $\mu$ m in the upper band of the near infrared spectrum.

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32. The method of claim 29, wherein detecting reflection from a scene in at least a portion of one band of the near infrared spectrum comprises detecting reflection from the scene in at least a portion of the upper band of the near infrared spectrum.

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33. The method of claim 32, wherein the at least a portion of the upper band of the near infrared spectrum is at least a portion within the range of 1.4 $\mu$ m to 2.2 $\mu$ m in the upper band of the near infrared spectrum.

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34. The method of claim 29, wherein detecting reflection from at least one portion of a head of a human body in at least a portion of an upper band of the near infrared spectrum comprises detecting reflection from at least one portion of a head of a human body in at least a portion within the range of 1.4 $\mu$ m to 2.2 $\mu$ m in the upper band of the near infrared spectrum.

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35. The method of claim 29, wherein detecting reflection from at least one portion of a head of a human body comprises detecting reflection from at least a skin portion of the head of the human body.

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36. The method of claim 29, wherein detecting reflection from at least one portion of a head of a human body comprises detecting reflection from at least a hair portion of the head of the human body.

- 5 37. The method of claim 34, wherein to determine the presence of an artificial material associated with the head of the human body a representation of the detected reflection of the at least one portion of the head of the human body is displayed to a user.

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